UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,250	01/14/2004	Frank Eliot Levine	AUS920030488US1	6476

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EXAMINER
KENDALL, CHUCK O

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/757,250	LEVINE ET AL.
	Examiner	Art Unit	
	Chuck O. Kendall	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This is in response to Application filed 01/14/04.

2.   Claims 1 –20 have been examined.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the
> United States before the invention thereof by the applicant for patent, or on an international application
> by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
> title before the invention thereof by the applicant for patent.

4.   Claims 1 – 6 are rejected under 35 U.S.C. 102(e) as being anticipated by

Merchant et al. USPN 6,772,322 B1.

        Regarding claim 1, a method for executing instructions in a data processing

system, comprising:

        associating one or more instructions of a computer program with one or more

performance indicators (FIG.3, 322, see EVENT DETECTOR);

        storing the one or more performance indicators in one or more performance

indicator fields of a page table (See, FIG. 5 and all associated text);

initiating one or more counter fields in the page table for the one or more

instructions in association with corresponding performance indicators of the one or more

performance indicators (FIG.3, 350); and

incrementing values in the one or more counter fields during execution of an

instruction of the computer program based on whether the instruction has an associated

performance indicator in a performance indicator field of the page table (FIG. 3,350 and

all associated text).

Regarding claim 2, the method of claim 1, wherein incrementing values in the

one or more counter fields during execution of an instruction includes:

determining if an event associated with a performance indicator stored in the one

or more performance indicator fields has occurred (FIG. 4, 415, and all associated text);

and

incrementing a value in a corresponding counter field of the one or more counter

fields if the event has occurred (FIG. 4, 465 and all associated text).

Regarding claim 3, the method of claim 1, wherein the event is a cache miss

(2:35 – 40).

Regarding claim 4, the method of claim 1, further comprising:

storing one or more threshold values in one or more threshold fields of the page

table in association with the one or more performance indicator fields and the one or

more counter fields (7:25 – 50, see tagging matrix).

Regarding claim 5, the method of claim 4, further comprising:

upon the occurrence of an event, comparing one or more values in the one or

more counter fields to a threshold value in the one or more threshold fields (5:33 – 42);

and

generating an interrupt if a predetermined relationship between the one or more

values in the one or more counter fields and the threshold value is present (2:33 - 37).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merchant

et al. USPN 6,772,322 B1 as applied in claim 1, in view of Roth et al. USPN 5,937,437.

Regarding claim 6, Merchant teaches all the claimed limitations as applied in

claim 1 above including determining whether an event has occurred during the

accessing of the portion of code or portion of data, wherein incrementing the values in

the one or more counter fields is performed in response to a determination that the

event has occurred during the access of the portion of code or portion of data (FIG. 4,

items 415 – 445, see receive events and associate performance tag in storage also all

other associated text) .

Merchant doesn't expressly disclose receiving an access request for portion of

code or portion of data, wherein the access request includes an identifier of a virtual

address of the portion of code or portion of data and converting the virtual address to a

real address of a storage location of the portion of code or portion of data in a storage

device and accessing the portion of code or portion of data via using the real address.

However, Roth in an analogous art and similar configuration of monitoring performance

(Abstract) discloses monitoring events related to virtual storage (effective-to-real)

address translation and also converting virtual addresses to corresponding real

addresses (3:55 – 4:8) and accessing them quickly to obtain a real address to verify a

cache hit. Therefore it would have been obvious to one of ordinary skill in the art at the

time the invention was made to combine Merchant and Roth because, it would enable

verifying cache hits.

Regarding claim 7, the method of claim 1, Roth further discloses wherein

associating one or more instructions of a computer program with one or more

performance indicators includes associating the one or more performance indicators

with a virtual and a real addresses of the one or more instructions in the page table

(Roth 3:60 – 67).

Regarding claim 8, the computer program product version of claim 1, see the rationale above as previously discussed.

Regarding claim 9, the computer program product version of claim 2, see the rationale above as previously discussed.

Regarding claim 10, the computer program product version of claim 3, see the rationale above as previously discussed.

Regarding claim 11, the computer program product version of claim 4, see the rationale above as previously discussed.

Regarding claim 12, the computer program product version of claim 5, see the rationale above as previously discussed.

Regarding claim 13, the computer program product version of claim 6, see the rationale above as previously discussed.

Regarding claim 14, the computer program product version of claim 7, see the rationale above as previously discussed.

Regarding claim 15, the apparatus version of claim 1, see the rationale above as previously discussed.

Regarding claim 16, the apparatus version of claim 2, see the rationale above as previously discussed.

Regarding claim 17, the apparatus version of claim 3, see the rationale above as previously discussed.

Regarding claim 18, the apparatus version of claim 4, see the rationale above as previously discussed.

Regarding claim 19, the apparatus version of claim 5, see the rationale above as previously discussed.

Regarding claim 20, the apparatus version of claim 6, see the rationale above as previously discussed.

Correspondence information

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Kendall whose telephone number is 571-272-3698. The examiner can normally be reached on 10:00 am - 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ck.